

Amendment Under 37 CFR 1.116
Dated December 8, 2003
Serial No. 09/231,271

REMARKS

Reconsideration of this application is respectfully requested. By this amendment, claims 1, 4, 7, 10, 11, 13, 14, 16, 18, and 19 have been amended, and claims 9, 12, and 17 have been canceled. The indication that claims 4-6 contain allowable subject matter is noted with appreciation. Claim 4 has been amended into independent form and is thus believed allowable. Currently, claims 1-8, 10-11, 13-16, and 18-23 are pending in this application.

Applicants would like to thank the Examiner for the courtesies extended during the interview on December 4, 2003. During the interview, the Hung and Pistilli references were discussed as were proposed amendments to the claims. The proposed amendments to the claims are reflected in this Amendment. The Examiner indicated that the oral description of the proposed amendments appeared to overcome the combination of Hung and Pistilli, but that further consideration of Hung and possibly a further search would be required before reaching agreement as to the patentability of the claims.

Additionally, applicants noted a discrepancy between the Office Action Summary and the text of the Office Action, and asked the Examiner to clarify whether this additional search and/or consideration could be provided in connection with a response to the present Office Action. Specifically, applicants noted that the Office Action was indicated as non-final on the Office Action Summary, but contained a paragraph indicating that the Office Action was Final. The Examiner indicated that he would consult with his supervisor, and subsequently called applicant's representative to clarify that the Office Action was to be considered final. Applicants appreciate the Examiner's efforts in this regard and, if possible, request the Examiner to consider the amendments and remarks submitted herein on their merits despite the finality of the Office Action.

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Rejection of claims 1 and 7-23 under 35 U.S.C. 103 over Hung and Pistilli

Claims 1 and 7-23 were rejected under 35 U.S.C. 103 as unpatentable over Hung (U.S. Patent No. 5,390,231) in view of Pistilli (U.S. Patent No. 5,539,820). This rejection is respectfully traversed in view of the amendments to the claims and the following arguments.

Independent Claim 1:

As discussed during the interview with the Examiner, Hung teaches a protection circuit that decouples the subscriber line from the power supply in the presence of an over-current condition. See Hung, Fig. 2, blocks 61 and 62, in which only the over-current condition need be detected to open the protection relay and enter the recovery process, respectively. Hung also teaches that the power supply should be continuously decoupled from the subscriber line while the power supply is in an over-voltage condition. The protection relay is then maintained in an open condition until the common mode voltage, VCM, falls below a predetermined threshold voltage and the exit recovery process is exited. See Hung, Fig. 4, blocks 82, 83, and 84. However, as discussed with the Examiner during the interview, Hung fails to teach or suggest a control means for operating the power supply isolation means in response to a current exceeding a current threshold and a voltage failing to exceed a voltage threshold. Claim 1 has been amended accordingly and is therefore believed allowable over Hung and Pistilli.

Independent Claim 7:

Claim 7 has been amended to include two features originally included in claim 9:

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"b)(1) checking, responsive to starting the timer and to the over-current condition being present, for a presence of an over-voltage condition, the over-voltage condition being defined as when voltage on the telephone subscriber line exceeds a predetermined voltage threshold value;

b)(2) stopping, responsive to the over-voltage condition being present, the timer and continuing the method from the step (a) of checking."

Accordingly in this claim as in claim 1, the line circuit is decoupled from the power supply where both the *presence* of an over-current condition and the *absence* of an over-voltage condition have been detected. In addition, claim 7 includes the feature of both decoupling the line circuit from the power supply and subsequently recoupling the line circuit to the power supply after a predetermined period of time has elapsed.

The Examiner has taken the position, in connection with claim 9, that block 82 of Fig. 4 of Hung teaches stopping the timer in response to an over-voltage condition being present and then continuing to monitor the current. Applicants respectfully disagree.

After carefully examining blocks 82 and 83 of Fig. 4 of Hung and the accompanying description, it appears clear to applicants that the common mode voltage, VCM, is checked and if an over-voltage condition exists, the method depicted therein loops back from block 83 to block 82. At this point, the next portion of the VCM signal is sampled, rectified, and filtered in preparation for checking against a predetermined threshold. Accordingly, in contrast to the claimed invention, Hung teaches that the only condition required to open the protection relay is the detection of an over-current condition. In Hung, in contrast to the claimed invention, the protection relay is closed and the current monitored only after a detected over-voltage condition has been resolved.

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For the reasons stated above, the applicant respectfully submits that Hung fails to teach or suggest the use of both overcurrent and overvoltage conditions to decouple the subscriber line from the power supply. In addition, Hung fails to teach or suggest recoupling the subscriber line after being decoupled for a predetermined period of time. Pistilli fails to make up for these deficiencies of Hung, and therefore neither reference, either alone or in combination, teaches or suggests each and every claim element of claim 7. Accordingly, applicant respectfully requests the reconsideration and allowance of claim 7. Claims 8 and 10 depend from claim 7 and are patentable for at least the same reasons as claim 7.

Independent Claim 11:

Claim 11 has been amended to further include the limitations previously set forth in claim 12:

- "f) checking for the presence of the over-voltage condition;
 - g) restarting, responsive to the over-voltage condition being present, the first timer;
- and
- h) disconnecting, responsive to the first timer having expired after being restarted and to the over-voltage condition being present, the line circuit from the telephone subscriber line."

The Examiner has rejected claim 12 as being taught by Hung. In support of this rejection, the Examiner has cited Fig. 2 and blocks 55, 58, and 61 and has asserted that these portions teach monitoring for an over-voltage condition, restarting the first timer in response to a detected over-voltage condition, and disconnecting the line circuit from the telephone subscriber line in the event that the first timer has expired, respectively.

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Applicant respectfully disagrees with this interpretation of Hung. First, Hung actually teaches the detection of a problem in a telephone subscriber line only by monitoring the common mode current, ICM. There is no teaching in Hung that a problem can be detected by monitoring a voltage as claimed in claim 11. Hung teaches "the protection routine monitors the common mode current ICM, and, in the event of an excessive current, opens the relay contacts 14 at a zero crossing in the case of a high voltage a.c. fault or on accumulating in an overcurrent counter, which exceeds a threshold in the case of a lower voltage a.c. fault or a d.c. fault." See Hung, col. 7 lines 11-17. In the description accompanying Fig. 2, Hung teaches: "A block 51 illustrates that the common mode current ICM is rectified, low pass filtered, and monitored, an overcurrent (OC) flag being set if an excessive current is detected in this monitoring." Thus, throughout Fig. 2, the common mode current is monitored and checked; never is it suggested that the voltage can be monitored to detect a problem.

Only in the recovery process, block 62 in Fig. 2, Fig. 3, and Fig. 4 in which Hung teaches the diagnoses of the actual error, is the common mode voltage monitored. For example, in Fig. 4 of Hung, the common mode voltage is monitored to determine if an over-voltage condition exists in order to diagnose the problem. In Fig. 5 of Hung, the common mode current is again monitored and the voltages RV, TV, and DV are adjusted to diagnose if a low voltage condition exists or if a ground fault problem is the problem.

For the reasons stated above, because the only teaching in Hung that involves monitoring a voltage is to monitor a voltage after an overcurrent condition has been detected, and the monitored voltage is used only to diagnose the problem, applicant believes that Hung fails to teach or suggest monitoring a voltage to detect a problem. In addition, applicant respectfully submits that Pistilli fails to make up for the deficiencies of Hung and therefore neither reference,

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either alone or in combination teaches or suggests each and every claim element of claim 11. Accordingly, applicant respectfully requests the reconsideration and allowance of claim 11. Claims 13-15 depend from claim 11 and are patentable for at least the same reasons as claim 11.

Independent Claim 16:

Claim 16 has been amended to include the limitations of claim 17, which has been cancelled. Applicants respectfully submit that claim 16 is allowable for substantially the same reasons set forth above with respect to claim 11. Claims 18-23 depend from claim 16 and are patentable for at least the same reasons as claim 16.

Rejection of claims 2-3 under 35 U.S.C. 103 over Hung, Pistilli, and Chen

Claims 2 and 3 were rejected over Hung and Pistilli, and further in view of Chen (U.S. Patnet No. 6, 288,883). Applicants respectfully submit that Chen fails to make up the deficiencies of Hung and Pistilli and accordingly respectfully submit that dependent claims 2 and 3 are patentable for at least the reasons set forth above with respect to claim 1.

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Conclusion

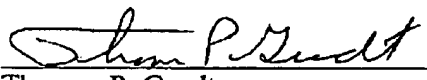
If there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

If any fees are due in connection with this filing, the Commissioner is hereby authorized to charge payment of the fees associated with this communication or credit any overpayment to Deposit Account No. 502246 (Ref: NN-RQ3951).

Respectfully Submitted

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